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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,151	04/05/2006	Bjarne Anders Heggset	2005_2004A	6577

513 7590 04/23/2007
WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

LIN, KUANG Y

ART UNIT	PAPER NUMBER
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1725

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p>10/562,151</p>	<p>Applicant(s)</p> <p>HEGGSET ET AL.</p>	
	<p>Examiner</p> <p>Kuang Y. Lin</p>	<p>Art Unit</p> <p>1725</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/23/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Applicant is requested to provide in the specification headings, such as "BACKGROUND OF THE INVENTION", "SUMMARY OF THE INVENTION", "BRIEF DESCRIPTION OF THE DRAWINGS", "DETAILED DESCRIPTION OF THE DRAWINGS", etc. to render the specification in a better format.
2. The specification is objected to in that it contains numeral non-idiomatic expression. For example, it refers "strand" as "tie rod". Further, it refers element 3 as "mold" as well as "chill". Applicant is required to correct these and other errors which might occur throughout the specification.
3. Claims 11-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims are written in a narrative format rather than an objective format and thereby they do not positively and directly include all the process steps or elements which are referred thereto. Claim 1 is further rejected in that in lines 1-2, the language of "in particular directly-cooled (DC) casting of aluminum" is deemed to be indefinite in that it is not clear what scope is claimed. In claim 1, line 4 and claim 15, line 4, respectively, "string, tie rod" shall be changed to "strand". Claim 1 and 15 last line, respectively, the expression of "principally zero" is a non-idiomatic expression. In claims 15-17, 19 and 20, it is not clear what structure of the equipment is provided such that to achieve the designated functions. In claim 19, it is not clear what "pressure tank or pressure reservoir" is referred to. In claim 20, it is not clear what is claimed.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 11-13, 15-17 and 19-20 insofar as definite are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-110,851.

JP '851 substantially shows the invention as claimed except that it does not disclose to provide an approximate zero metallostatic pressure against the mold wall. However, it would have been obvious to those of ordinary skill in the art to obtain the optimal pressure through routine experimentation. With respect to claim 17, it would have been obvious to provide a valve in a dispensing system wherever it deems necessary.

7. Claims 11-20 insofar as definite are also rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,071,072 to McCubbin in view of JP 62-110,851.

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McCubbin substantially shows the invention as claimed except that he does not show to regulate the molten metal such that the metallostatic pressure against the mold wall is approximate zero. However, JP '851 disclose to provide a vacuum chamber to a molten metal supply path to a continuous casting mold and evacuating the inside of the chamber to suck the molten metal such that the metallostatic pressure against the mold wall is decreased. The process of JP '851 has an advantage of speeding up the casting process as well as improving the ingot quality. It would have been obvious to provide the molten metal dispensing system of JP '851 in the apparatus of McCubbin in view of the advantage. It would have been obvious to those of ordinary skill in the art to obtain the optimal pressure through routine experimentation. With respect to claims 14 and 18, it is conventional to provide permeable rings in the DC mold for supplying lubricant. With respect to claim 17, it would have been obvious to provide a valve in a dispensing system wherever it deems necessary.

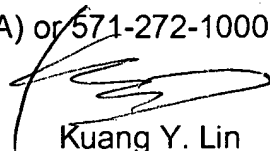
8. The patents to Yanagimoto et al. and Wilkins are cited to further show the state of the art.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuang Y. Lin whose telephone number is 571-272-1179. The examiner can normally be reached on Monday-Friday, 10:00-6:30,.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kuang Y. Lin
Primary Examiner
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4-16-07